

Using the Calculate Geometry Tool

ISTC Topic:

2.4

In this Chapter you will learn

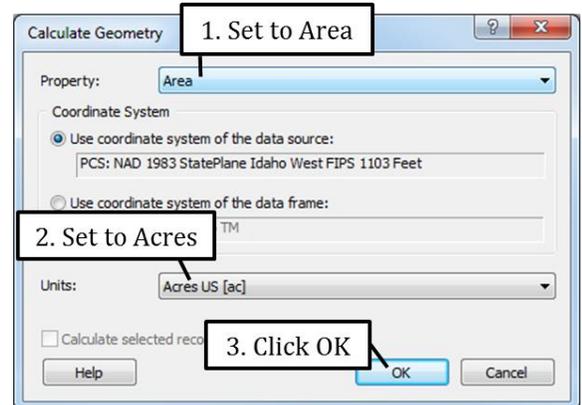
- How to use the Calculate Geometry tool to compute acres for a parcels layer
- How to compute the centroid of a polygon layer and use that to create a point layer

Exercise 1: Use the Geometry Calculator to compute acreage

1. Start a new map document and add the Parcels shapefile.
2. Open the attribute table for the Parcels layer and add a field called "ACRES" (Data Type = Double, Precision = 10, Scale = 2).
3. Right-click on the ACRES field and select "Calculate Geometry". Complete the dialog box as shown on the right. Click "Yes" if you get a warning message about performing edits outside an edit session.
4. You should now see the acreage for each parcel in the attribute table.



2.4. Using the Geometry Calculator to Compute Acres



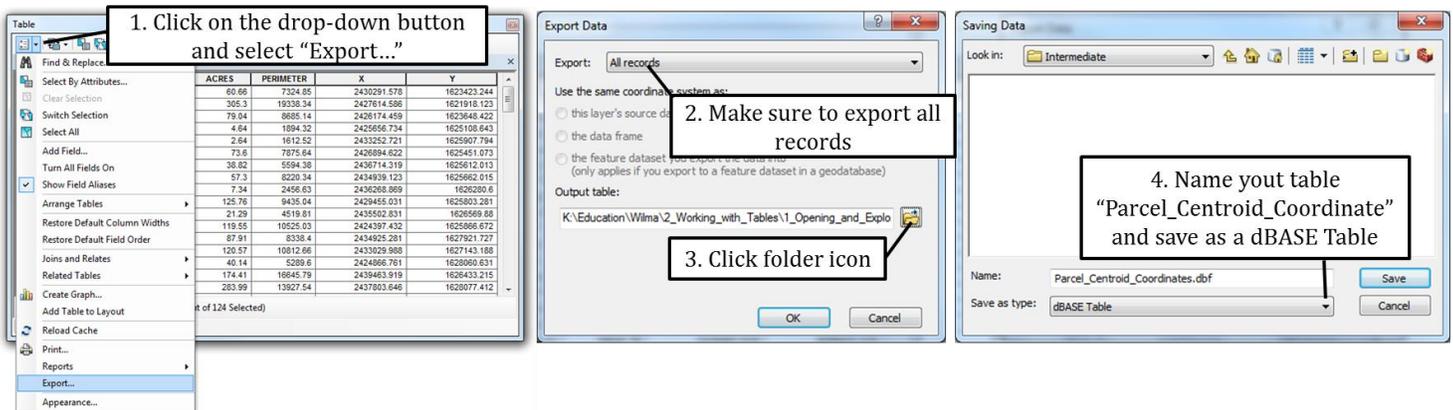
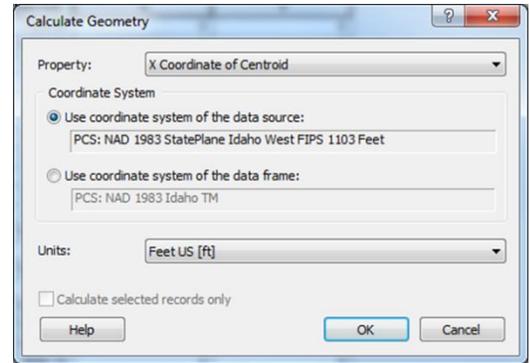
Exercise 2: Compute parcel centroids to generate a parcels point layer

In this exercise you will start out with a parcels shapefile, which is a polygon layer. By calculating the center, or centroid, of each polygon you can then create a new point shapefile representing each parcel with a point in its center. It is not uncommon to do this type of geoprocessing. For example, it is frequently one of the first steps towards building a shapefile showing structures or addresses in a given area.

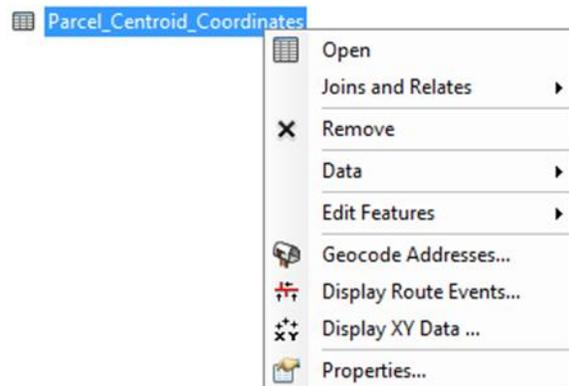


2.4. Converting a polygon layer into a point layer

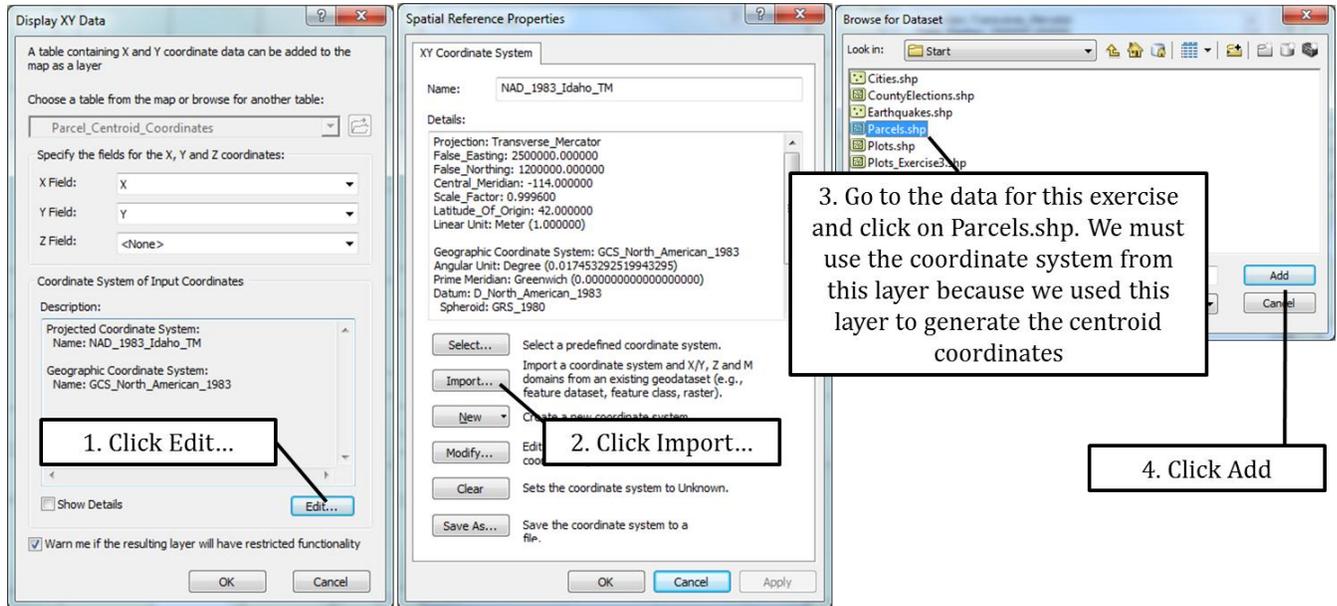
1. Open a new map document and add the Parcels layer from the Start folder.
2. Open the attribute table and add two new fields (both Data Type = Double, Precision = 15 and Scale = 3). Call one of the fields "X" and the other "Y".
3. Right-click on the X field and select Calculate Geometry. Compute the X Coordinate of the Centroid as shown on the right. Set units to Feet to match the unit used in the coordinate system.
4. Right-click on the Y field and compute the Y Coordinate of the Centroid.
5. Follow the instructions below to export the attribute table as a dBASE Table.



6. Click Save and then OK to complete the export. Add the table to your map when prompted.
7. Right-click on the table you just add in the table of contents and select Display XY Data as shown on the right hand side.



- Use the instructions below to set up the “Display XY Data” dialog boxes. Make sure to pick the coordinate system that matches the one we used to create the X and Y fields.



- The parcel centroids will now be added to your map as events. Right-click on the Parcel_Centroid_Coordinates_Events layer in the table of contents and select Data > Export Data. Export all features and store them as a shapefile named Parcel_Centroids.
- The Parcel_Centroids shapefile you just created should match the figure shown on the right.

